

ALLEGATO B

UNIVERSITÀ DEGLI STUDI DI MILANO

selezione pubblica per n. 1 posto di Ricercatore a tempo determinato in tenure track (RTT)

per il gruppo scientifico-disciplinare 01/MATH-04 - Fisica matematica ,

settore scientifico-disciplinare MATH-04/A - Fisica matematica

presso il Dipartimento di MATEMATICA "FEDERIGO ENRIQUES"

(avviso bando pubblicato sulla G.U. n. 92 del 19/11/2024 Codice concorso 5647)

Nicola Zamponi **CURRICULUM VITAE**

INFORMAZIONI PERSONALI (NON INSERIRE INDIRIZZO PRIVATO E TELEFONO FISSO O CELLULARE)

COGNOME	ZAMPONI
NOME	NICOLA

TITOLI

TITOLO DI STUDIO

(indicare la Laurea conseguita inserendo tipologia e relativo punteggio, Ateneo, titolo della tesi, data di conseguimento, ecc.)

Laurea Specialistica in Matematica per le Applicazioni, conseguita presso l'Università degli Studi di Firenze il 17/07/2009 con punteggio 110/110 e lode. Titolo della tesi: "Trasporto quantistico degli elettroni nel Grafene: un approccio cinetico e fluidodinamico". Relatore: Dott. Luigi Barletti.

Laurea in Matematica, conseguita presso l'Università degli Studi di Firenze il 12/10/2007 con punteggio 110/110 e lode. Titolo della tesi: "Alcuni modelli di traffico". Relatore: Prof. Giorgio Busoni.

TITOLO DI DOTTORE DI RICERCA O EQUIVALENTI, OVVERO, PER I SETTORI INTERESSATI, DEL DIPLOMA DI SPECIALIZZAZIONE MEDICA O EQUIVALENTE, CONSEGUITO IN ITALIA O ALL'ESTERO

(inserire tipologia del titolo e relativo punteggio, Ateneo, titolo della tesi, data di conseguimento, ecc.)

Dottorato di Ricerca in Matematica, conseguito presso l'Università degli Studi di Firenze il 20/05/2013. Titolo della tesi: "Quantum Fluid Models for Electron Transport in Graphene". Tutor: Dott. Luigi Barletti.

CONTRATTI DI RICERCA, ASSEGNI DI RICERCA O EQUIVALENTI

(per ciascun contratto stipulato, inserire tipologia, università/ente, durata in anni / data di inizio e fine, ecc.)

Post-Doc assistente a progetto in Matematica, Institute for Analysis and Scientific Computing, Vienna University of Technology (Austria), 06/2013 - 12/2018.

Post-Doc assistente a progetto in Matematica, Faculty of Mathematics and Physics, Charles University, Praga (Rep. Ceca), 01/2019 - 12/2019.

Humboldt Fellow at University of Mannheim, School of Business Informatics and Mathematics, Mannheim (Germania), 03/2020 - 08/2021.

Post-Doc assistente a progetto in Matematica, Institute for Analysis and Scientific Computing, Vienna University of Technology (Austria), 09/2021 - 03/2023.

Professore ad Interim in Matematica, Institute for Applied Analysis, University of Ulm (Germania), 04/2023 - 09/2024.

ATTIVITÀ DIDATTICA A LIVELLO UNIVERSITARIO IN ITALIA O ALL'ESTERO

(inserire tipologia dell'attività, periodo [gg/mm/aa inizio e fine], anno accademico, ateneo, denominazione del corso, numero ore/CFU, ecc.)

Insegnamento del corso "Partial Differential Equations", semestre estivo 2024, University of Ulm (Germania), 4+2 ore/settimana.

Insegnamento del corso "Elementare Differentialgeometrie", semestre estivo 2024, University of Ulm (Germania), 2+1 ore/settimana.

Insegnamento del corso "Advanced Topics in PDEs", semestre invernale 2023/24, University of Ulm (Germania), 4+2 ore/settimana.

Insegnamento del corso "Analysis 3", semestre invernale 2023/24, University of Ulm (Germania), 2+1 ore/settimana.

Insegnamento del corso "Partial Differential Equations", semestre estivo 2023, University of Ulm (Germania), 4+2 ore/settimana.

Insegnamento del corso "Elements of Calculus of Variations", semestre estivo 2023, University of Ulm (Germania), 2+1 ore/settimana.

Organizzazione del seminario "Seminar with seminar paper on PDEs", semestre invernale 2021/22, Vienna University of Technology (Austria).

Insegnamento del corso specializzato "Transport models for semiconductors", 2019, Mathematical Institute of Charles University, Praga (Rep. Ceca).

Insegnamento del corso specializzato "Entropy Methods for Diffusive PDEs", semestre estivo 2017, Vienna University of Technology (Austria).

Insegnamento del corso specializzato "From the Boltzmann equation to hydrodynamic models", semestre invernale 2017, Mathematical Institute of Charles University, Praga (Rep. Ceca).

Esercitazioni per il corso di laurea triennale "Modeling with PDEs", semestre invernale 2016, Vienna University of Technology (Austria).

Insegnamento del corso specializzato "Transport Models for Semiconductors", semestre estivo 2015, Vienna University of Technology (Austria).

Esercitazioni per il corso di laurea triennale "Metodi Matematici per le Applicazioni", semestre estivo 2012, Dipartimento di Matematica, Università degli Studi di Firenze.

DOCUMENTATA ATTIVITÀ DI FORMAZIONE O DI RICERCA PRESSO QUALIFICATI ISTITUTI ITALIANI O STRANIERI

(inserire tipologia dell'attività, anno/anno accademico, ente, periodo, impegno in termini orari, ecc.)

Post-Doc assistente a progetto in Matematica, Institute for Analysis and Scientific Computing, Vienna University of Technology (Austria), 06/2013 - 12/2018, a tempo pieno (40 ore/settimana).

Post-Doc assistente a progetto in Matematica, Faculty of Mathematics and Physics, Charles University, Praga (Rep. Ceca), 01/2019 - 12/2019, a tempo pieno (40 ore/settimana).

Humboldt Fellow at University of Mannheim, School of Business Informatics and Mathematics, Mannheim (Germania), 03/2020 - 08/2021, a tempo pieno (40 ore/settimana).

Post-Doc assistente a progetto in Matematica, Institute for Analysis and Scientific Computing, Vienna University of Technology (Austria), 09/2021 - 03/2023, a tempo pieno (40 ore/settimana).

Professore ad Interim in Matematica, Institute for Applied Analysis, University of Ulm (Germania), 04/2023 - 09/2024, a tempo pieno (40 ore/settimana).

DOCUMENTATA ATTIVITÀ IN CAMPO CLINICO

(indicare, data, durata, ruolo, ente presso il quale si è prestata attività assistenziale, ecc.)

REALIZZAZIONE DI ATTIVITÀ PROGETTUALE

(indicare descrizione dell'attività, durata, eventuale ente a favore del quale è stata realizzata l'attività, ecc.)

Progetti di ricerca di cui sono stato Principal Investigator (PI):

WTZ Czech-Austrian Collaboration 2018-2019, CZ 15/2018: "Mathematical modelling and analysis of chemically reacting electrically charged complex fluids". Austrian PI: Dr. Nicola Zamponi. Czech PI: Ass. Prof. Miroslav Bulíček. Funding agency: OeAD (Austrian Exchange Service), Czech Ministry of Education. Austrian side funding: €2.800, total funding: €6.000. Duration: 01.01.2018 - 31.12.2018.

Austro-German Research Grants Programme I 3401: "Analysis of Partial Differential Equations with Cross-Diffusion and Stochastic Driving". Austrian PI: Dr. Nicola Zamponi. German PI: Prof. Christian Kühn, Ph.D. Funding agencies: DFG (Deutsche Forschungsgemeinschaft), FWF (Austrian Science Fund). Austrian side funding: €122.000, total funding: €327.000. Duration: 01.02.2018 - 30.04.2021.

Humboldt Fellowship for Experienced Researchers. Funding agency: Alexander von Humboldt Stiftung/Foundation. Funding: €59.000. Fellowship period: 01.03.2020 - 31.08.2021.

Progetti di ricerca a cui ho partecipato:

PRIN: Kinetic and hydrodynamic equations for complex collisional systems. National coordinator: Prof. M. Pulvirenti. Duration: 01/2009 - 12/2009.

Cross-diffusion in chemotaxis and tumor growth models. Financed by the Austrian Research Foundation (FWF). Project number: P22108. Project leader: Univ.-Prof. Dr. Ansgar Jüngel. Duration: 06/2013 - 03/2014.

Discrete entropy structures in nonlinear diffusive evolution equations. Financed by the Austrian Research Foundation (FWF). Project number: P24304. Project leader: Univ.-Prof. Dr. Ansgar Jüngel. Duration : 04/2014 - 05/2016.

Analysis of diffusion models for multi-species systems. Financed by the Austrian Research Foundation (FWF). Project number: P27352. Project leader: Univ.-Prof. Dr. Ansgar Jüngel. Duration: 06/2016 - 12/2018.

Partial differential equations in mechanics and thermodynamics of fluids. Financed by the Czech Science Foundation (GACR). Project number: 19-04243S. Project leader: RNDr. DSc. Šárka Nečasová. Duration: 01/2019 - 12/2019.

Derivation and Analysis of cross-diffusion systems. Financed by the Austrian Research Foundation (FWF). Project number: P30000-N32. Project leader: Univ.-Prof. Dr. Ansgar Jüngel. Duration: 09/2021 - 12/2021.

Multicomponent systems with incomplete diffusion. Financed by the Austrian Research Foundation (FWF). Project number: P33010-N. Project leader: Univ.-Prof. Dr. Ansgar Jüngel. Duration: 01/2022 - 03/2023.

ORGANIZZAZIONE, DIREZIONE E COORDINAMENTO DI CENTRI O GRUPPI DI RICERCA NAZIONALI E INTERNAZIONALI O PARTECIPAZIONE AGLI STESSI

(per ciascuna voce inserire tipologia di progetto, titolo del progetto, anno, durata, eventuale ente finanziatore e importo del finanziamento, ruolo, gruppo di ricerca, ecc.)

TITOLARITÀ DI BREVETTI

(per ciascun brevetto, inserire autori, titolo, tipologia [nazionale o internazionale], anno, numero brevetto, ecc.)

ATTIVITÀ DI RELATORE A CONGRESSI E CONVEGNI NAZIONALI E INTERNAZIONALI

(inserire titolo congresso/convegno, data, durata in giorni/ore, ente organizzatore, ecc.)

2011

IV edition of the School “Mathematical Methods in Quantum Mechanics (MMQM)”, Bressanone (Italy), February 14 - 19. Contributed talk: “Fluid-dynamic models for quantum electron transport in graphene via entropy minimization.”

2012

Congress “Modelli matematici per la nanoelettronica”, Firenze (Italy), May 31 - June 1. Contributed talk: “Two spinorial drift-diffusion models for quantum electron transport in graphene.”

VI edition of the Summer School “Methods & Models of Kinetic Theory (M&MKT)”, Porto Ercole (Italy), June 3 - 9. Poster: “Two-spinorial drift-diffusion models for quantum transport in graphene: derivation, analytical study and numerical simulation.”

SIMAI 2012 congress, Torino (Italy), June 25 - 28. Contributed talk: “Two spinorial drift-diffusion models for quantum electron transport in graphene.”

Workshop “Mathématique pour le Graphène”, Grenoble (France), October 14 - 15. Contributed talk: “Quantum Fluid Models for Electron Transport in Graphene”.

2014

Summer School “Analysis and applications of PDEs”, Bildungshaus Mariatrost, Graz (Austria), September 8 - 12. Contributed talk: “An entropy-based method for the analysis of cross-diffusion PDEs”.

2015

DK Winter Workshop “Dissipation and Dispersion in Nonlinear PDEs”, Seehotel Rust, Rust am See (Austria), January 21 - 23. Contributed talk: “Analytical study of degenerate cross-diffusion population models with volume filling”.

Conference “Equadiff 2015”, Université Claude Bernard Lyon 1, Lyon (France), July 6

- 10. Minisymposium: “Analysis of degenerate cross-diffusion population models with volume filling”.

2016

Conference on Scientific Computing “ALGORITMY 2016”, Vysoké Tatry, Podbanské (Slovakia), March 13-18. Minisymposium: “Analysis of a coupled spin drift-diffusion Maxwell-Landau-Lifshitz system”.

2017

Workshop on “Cross diffusion and kinetic equations for biology”, Vienna (Austria), May 10-12. Talk: “Analysis of degenerate cross-diffusion population models with volume filling”.

2018

Workshop on “Nonlocal differential equations in collective behavior”, San Jose, California (USA), June 18-22. Talk: “Of entropy and cross-diffusion PDEs systems”.

Chinese-Swedish workshop in nonlinear PDEs, KTH, Stockholm (Sweden), September 3-4. Talk: “A non-local porous media equation”.

2019

EMS School in Applied Mathematics “Mathematical Aspects of Fluid Flows”, Kácov (Czech Republic), May 26 - 31. Talk: “A non-local porous media equation”.

2021

8th European Conference of Mathematics, online, June 20-26. Talk: “Nonisothermal Richards flow in porous media with cross diffusion” within the Minisymposium “Multi-component Diffusion in Porous Media”.

2022

SIAM Conference on Analysis of Partial Differential Equations (PD22), online, March 14-18. Talk: “The Interplay Between Entropy and Cross-Diffusion in Population Models” within the Minisymposium “Recent Advances in Cross-Diffusion and Population Models”.

EQUADIFF 15, Brno, Czech Republic, July 11-15. Talk: “Nonisothermal Richards flow in porous media with cross diffusion” within the Minisymposium “PDE-06 Analysis of compressible multiphase systems”.

2024

TULKKA, Ulm, Germany, February 20. Talk: “Connection between a degenerate particle flow model and a free boundary problem”.

Conference EQUADIFF 2024, Karlstad, Sweden, June 10-14. Talk: “A continuity equation with space time nonlocal Darcy law and fractional time derivative”.

CONSEGUIMENTO DI PREMI E RICONOSCIMENTI NAZIONALI E INTERNAZIONALI PER ATTIVITÀ DI RICERCA
(inserire nome e motivazione del premio, data, ente erogatore, ecc.)

Best Paper Award 2014 of the Faculty for Mathematics and Geoinformation, Vienna University of Technology (Austria). Awarded paper: N. Zamponi. Analysis of a drift-diffusion model with velocity

saturation for spin-polarized transport in semiconductors. *Journal of Math. Anal. Appl.* (2014), 420 (2) 1167-1181.

Best Paper Award 2017 of the Faculty for Mathematics and Geoinformation, Vienna University of Technology (Austria). Awarded paper: N. Zamponi, A. Jüngel, Analysis of degenerate cross-diffusion population models with volume filling. *Annales de l'Institut Henri Poincaré (C) Non Linear Analysis*. 34 (2017), 1-29.

Best Paper Award 2019 of the Faculty for Mathematics and Geoinformation, Vienna University of Technology (Austria). Awarded paper: E. S. Daus, J.-P. Milišić, N. Zamponi. Analysis of a degenerate and singular volume-filling cross-diffusion system modeling biofilm growth. *SIAM J. Math. Anal.* 51.4 (2020), 3569-3605.

POSSESSO DEL DIPLOMA DI SPECIALIZZAZIONE EUROPEA RICONOSCIUTO DA BOARD INTERNAZIONALI (relativamente a quei settori concorsuali nei quali è prevista)

(indicare ambito di conseguimento del diploma, data di conseguimento, ente che ha rilasciato il diploma, ecc.)

TITOLI DI CUI ALL'ARTICOLO 24 COMMA 3 LETTERA A) E B) DELLA LEGGE 30 DICEMBRE 2010, N. 240

(indicare se contratto di tipologia A o B, Ateneo, data di decorrenza e fine contratto/periodo/durata in anni, ecc.)

PRODUZIONE SCIENTIFICA

PUBBLICAZIONI SCIENTIFICHE

(per ciascuna pubblicazione indicare: nomi degli autori, titolo completo, casa editrice, data e luogo di pubblicazione, codice ISBN, ISSN, DOI o altro equivalente)

Preprints

Daus, Esther S., Josipa Pina Milišić, and Nicola Zamponi. "Nonisothermal Richards Flow in Porous Media with Cross Diffusion." arXiv, 2021. <https://doi.org/10.48550/ARXIV.2102.00455>.

De Nitti, Nicola, and Nicola Zamponi. "Fractional Cross-Diffusion in a Bounded Domain: Existence, Weak-Strong Uniqueness, and Long-Time Asymptotics." arXiv, 2024. <https://doi.org/10.48550/ARXIV.2407.19824>.

Gualdani, Maria, Mikel Ispizua, and Nicola Zamponi. "A Quasilinear Keller-Segel Model with Saturated Discontinuous Advection." arXiv, 2024. <https://doi.org/10.48550/ARXIV.2403.06820>.

Pubblicazioni

Barbaro, Alethea B. T., Nancy Rodricuez, Havva Yoldas, and Nicola Zamponi. "ANALYSIS OF A CROSS-DIFFUSION MODEL FOR RIVAL GANGS INTERACTION IN A CITY." *COMMUNICATIONS IN MATHEMATICAL SCIENCES* 19, no. 8 (2021): 2139-75. <https://dx.doi.org/10.4310/CMS.2021.v19.n8.a4>.

Braukhoff, Marcel, Claudia Raithel, and Nicola Zamponi. "Partial Hölder Regularity for Solutions of a Class of Cross-Diffusion Systems with Entropy Structure." *JOURNAL DE MATHEMATIQUES PURES ET APPLIQUEES* 166 (October 2022): 30-69. <https://doi.org/10.1016/j.matpur.2022.07.006>.

Bulicek, Miroslav, Ansgar Jungel, Milan Pokorný, and Nicola Zamponi. "Existence Analysis of a Stationary Compressible Fluid Model for Heat-Conducting and Chemically Reacting Mixtures." *JOURNAL OF MATHEMATICAL PHYSICS* 63, no. 5 (May 1, 2022): 051501. <https://doi.org/10.1063/5.0041053>.

Bulicek, Miroslav, Milan Pokorný, and Nicola Zamponi. "EXISTENCE ANALYSIS FOR INCOMPRESSIBLE FLUID MODEL OF ELECTRICALLY CHARGED CHEMICALLY REACTING AND HEAT CONDUCTING MIXTURES." *SIAM JOURNAL ON MATHEMATICAL ANALYSIS* 49, no. 5 (2017): 3776-3830. <https://doi.org/10.1137/16M110931X>.

Caffarelli, Luis, Maria Gualdani, and Nicola Zamponi. "Existence of Weak Solutions to a Continuity Equation with Space Time Nonlocal Darcy Law." *COMMUNICATIONS IN PARTIAL DIFFERENTIAL EQUATIONS* 45, no. 12 (September 3, 2020): 1799-1819. <https://doi.org/10.1080/03605302.2020.1814325>.

Chen, Li, Simone Göttlich, and Nicola Zamponi. "Connection between a Degenerate Particle Flow Model and a Free Boundary Problem." *Acceptor for publication in Commun. Math. Sci.* (2024). <https://doi.org/10.48550/ARXIV.2202.04416>.

Chen, Li, Alexandra Holzinger, Ansgar Juengel, and Nicola Zamponi. "Analysis and Mean-Field Derivation of a Porous-Medium Equation with Fractional Diffusion." *COMMUNICATIONS IN PARTIAL DIFFERENTIAL EQUATIONS* 47, no. 11 (November 2, 2022): 2217-69. <https://doi.org/10.1080/03605302.2022.2118608>.

Chen, Li, Fucai Li, Yue Li, and Nicola Zamponi. "Global Weak Solutions to the Vlasov-Poisson-Fokker-Planck-Navier-Stokes System." *MATHEMATICAL METHODS IN THE APPLIED SCIENCES* 46, no. 2 (January 30, 2023): 2729-45. <https://doi.org/10.1002/mma.8672>.

Chen, Li, Yue Li, and Nicola Zamponi. "Global Weak Solutions to the Compressible Cucker-Smale-Navier-Stokes System in a Bounded Domain." *Nonlinear Analysis* 232 (July 2023): 113257. <https://doi.org/10.1016/j.na.2023.113257>.

Daus, Esther, Maria Pia Gualdani, Jingjing Xu, Nicola Zamponi, and Xinyu Zhang. "Non-Local Porous Media Equations with Fractional Time Derivative." *NONLINEAR ANALYSIS-THEORY METHODS & APPLICATIONS* 211 (October 2021): 112486. <https://doi.org/10.1016/j.na.2021.112486>.

Daus, Esther S., Maria Gualdani, and Nicola Zamponi. "Longtime Behavior and Weak-Strong Uniqueness for a Nonlocal Porous Media Equation." *JOURNAL OF DIFFERENTIAL EQUATIONS* 268, no. 4 (February 5, 2020): 1820-39. <https://doi.org/10.1016/j.jde.2019.09.029>.

Daus, Esther S., Ansgar Juengel, Clement Mouhot, and Nicola Zamponi. "HYPOCOERCIVITY FOR A LINEARIZED MULTISPECIES BOLTZMANN SYSTEM." *SIAM JOURNAL ON MATHEMATICAL ANALYSIS* 48, no. 1 (2016): 538-68. <https://doi.org/10.1137/15M1017934>.

Daus, Esther S., Josipa Pina Milisic, and Nicola Zamponi. "ANALYSIS OF A DEGENERATE AND SINGULAR VOLUME-FILLING CROSS-DIFFUSION SYSTEM MODELING BIOFILM GROWTH." *SIAM JOURNAL ON MATHEMATICAL ANALYSIS* 51, no. 4 (2019): 3569-3605. <https://doi.org/10.1137/18M1185806>.

Daus, Esther S., Josipa-Pina Milisic, and Nicola Zamponi. "GLOBAL EXISTENCE FOR A TWO-PHASE FLOW MODEL WITH CROSS-DIFFUSION." *DISCRETE AND CONTINUOUS DYNAMICAL SYSTEMS-SERIES B* 25, no. 3 (March 2020): 957-79. <https://doi.org/10.3934/dcdsb.2019198>.

Dhariwal, Gaurav, Ansgar Juengel, and Nicola Zamponi. "Global Martingale Solutions for a Stochastic Population Cross-Diffusion System." *STOCHASTIC PROCESSES AND THEIR APPLICATIONS* 129, no. 10 (October 2019): 3792-3820. <https://doi.org/10.1016/j.spa.2018.11.001>.

Favre, Gianluca, Ansgar Jüngel, Christian Schmeiser, and Nicola Zamponi. "Existence Analysis of a Degenerate Diffusion System for Heat-Conducting Gases." *Nonlinear Differential Equations and Applications NoDEA* 28, no. 4 (July 2021): 41. <https://doi.org/10.1007/s00030-021-00700-z>.

Golding, Wiliam, Maria Pia Gualdani, and Nicola Zamponi. "EXISTENCE OF SMOOTH SOLUTIONS TO THE LANDAU-FERMI-DIRAC EQUATION WITH COULOMB POTENTIAL." COMMUNICATIONS IN MATHEMATICAL SCIENCES 20, no. 8 (2022): 2315-65. <https://dx.doi.org/10.4310/CMS.2022.v20.n8.a7>.

Gualdani, Maria, and Nicola Zamponi. "A Review for an Isotropic Landau Model." In *PDE Models for Multi-Agent Phenomena*, edited by Pierre Cardaliaguet, Alessio Porretta, and Francesco Salvarani, 28:115-44. Springer INdAM Series. Cham: Springer International Publishing, 2018. https://doi.org/10.1007/978-3-030-01947-1_6.

Gualdani, Maria Pia, and Nicola Zamponi. "GLOBAL EXISTENCE OF WEAK EVEN SOLUTIONS FOR AN ISOTROPIC LANDAU EQUATION WITH COULOMB POTENTIAL." SIAM JOURNAL ON MATHEMATICAL ANALYSIS 50, no. 4 (2018): 3676-3714. <https://doi.org/10.1137/17M1142685>.

Gualdani, Maria Pia, and Nicola Zamponi. "Spectral Gap and Exponential Convergence to Equilibrium for a Multi-Species Landau System." BULLETIN DES SCIENCES MATHÉMATIQUES 141, no. 6 (August 2017): 509-38. <https://doi.org/10.1016/j.bulsci.2017.07.002>.

Hu, Jingwei, Ansgar Jüngel, and Nicola Zamponi. "Global Weak Solutions for a Nonlocal Multispecies Fokker-Planck-Landau System." Kinetic and Related Models 17, no. 6 (2024): 939-70. <https://doi.org/10.3934/krm.2024007>.

Jourdana, Clement, Ansgar Jungel, and Nicola Zamponi. "Three-Species Drift-Diffusion Models for Memristors." MATHEMATICAL MODELS & METHODS IN APPLIED SCIENCES, June 29, 2023. <https://doi.org/10.1142/S0218202523500501>.

Juengel, Ansgar, Jiri Mikyska, and Nicola Zamponi. "EXISTENCE ANALYSIS OF A SINGLE-PHASE FLOW MIXTURE WITH VAN DER WAALS PRESSURE." SIAM JOURNAL ON MATHEMATICAL ANALYSIS 50, no. 1 (2018): 1367-95. <https://doi.org/10.1137/16M1107024>.

Juengel, Ansgar, Polina Shpartko, and Nicola Zamponi. "ENERGY-TRANSPORT MODELS FOR SPIN TRANSPORT IN FERROMAGNETIC SEMICONDUCTORS." COMMUNICATIONS IN MATHEMATICAL SCIENCES 15, no. 6 (2017): 1527-63. <https://dx.doi.org/10.4310/CMS.2017.v15.n6.a3>

Juengel, Ansgar, and Nicola Zamponi. "Analysis of a Fractional Cross-Diffusion System for Multi-Species Populations." JOURNAL OF DIFFERENTIAL EQUATIONS 322 (June 15, 2022): 237-67. <https://doi.org/10.1016/j.jde.2022.03.028>.

Juengel, Ansgar, and Nicola Zamponi. "Qualitative Behavior of Solutions to Cross-Diffusion Systems from Population Dynamics." JOURNAL OF MATHEMATICAL ANALYSIS AND APPLICATIONS 440, no. 2 (August 15, 2016): 794-809. <https://doi.org/10.1016/j.jmaa.2016.03.076>.

Jungel, Ansgar, and Nicola Zamponi. "A Cross-Diffusion System Derived from a Fokker-Planck Equation with Partial Averaging." ZEITSCHRIFT FÜR ANGEWANDTE MATHEMATIK UND PHYSIK 68, no. 1 (February 2017): 28. <https://doi.org/10.1007/s00033-017-0772-1>.

Zamponi, N., and L. Barletti. "Quantum Electronic Transport in Graphene: A Kinetic and Fluid-Dynamic Approach." Mathematical Methods in the Applied Sciences 34, no. 7 (May 15, 2011): 807-18. <https://doi.org/10.1002/mma.1403>.

Zamponi, Nicola. "Analysis of a Drift-Diffusion Model with Velocity Saturation for Spin-Polarized Transport in Semiconductors." JOURNAL OF MATHEMATICAL ANALYSIS AND APPLICATIONS 420, no. 2 (December 15, 2014): 1167-81. <https://doi.org/10.1016/j.jmaa.2014.06.065>.

Zamponi, Nicola. "SOME FLUID-DYNAMIC MODELS FOR QUANTUM ELECTRON TRANSPORT IN GRAPHENE VIA ENTROPY MINIMIZATION." KINETIC AND RELATED MODELS 5, no. 1 (March 2012): 203-21. <https://doi.org/10.3934/krm.2012.5.203>.

Zamponi, Nicola, and Ansgar Juengel. "Analysis of a Coupled Spin Drift-Diffusion Maxwell-Landau-Lifshitz System." JOURNAL OF DIFFERENTIAL EQUATIONS 260, no. 9 (May 5, 2016): 6828-54. <https://doi.org/10.1016/j.jde.2016.01.010>.

Zamponi, Nicola, and Ansgar Juengel. "Analysis of Degenerate Cross-Diffusion Population Models with Volume Filling." ANNALES DE L INSTITUT HENRI POINCARÉ-ANALYSE NON LINEAIRE 34, no. 1 (February 2017): 1-29. <https://doi.org/10.1016/j.anihpc.2015.08.003>.

Zamponi, Nicola, and Ansgar Juengel. "Global Existence Analysis for Degenerate Energy-Transport Models for Semiconductors." JOURNAL OF DIFFERENTIAL EQUATIONS 258, no. 7 (April 5, 2015): 2339-63. <https://doi.org/10.1016/j.jde.2014.12.007>.

Zamponi, Nicola, and Ansgar Juengel. "TWO SPINORIAL DRIFT-DIFFUSION MODELS FOR QUANTUM ELECTRON TRANSPORT IN GRAPHENE." COMMUNICATIONS IN MATHEMATICAL SCIENCES 11, no. 3 (2013): 807-30. <https://dx.doi.org/10.4310/CMS.2013.v11.n3.a7>.

Data

18/12/2024

Luogo

Chitignano (AR), Italia